

(No Model.)

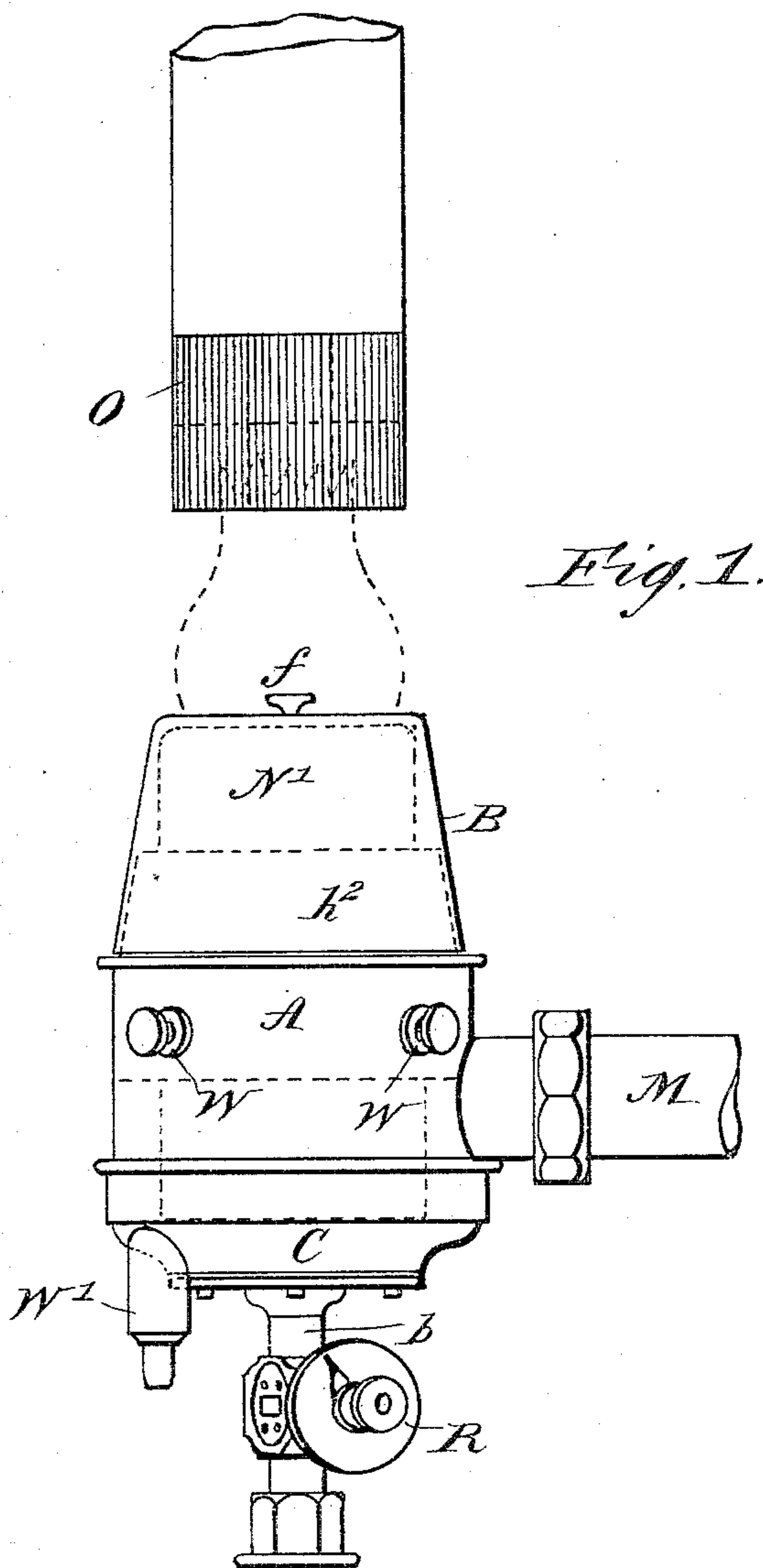
2 Sheets—Sheet 1.

J. R. WIGHAM.

OIL LAMP FOR LIGHT HOUSES.

No. 387,939.

Patented Aug. 14, 1888.



WITNESSES:

Donn Twitchell.
C. Sedgwick.

INVENTOR:

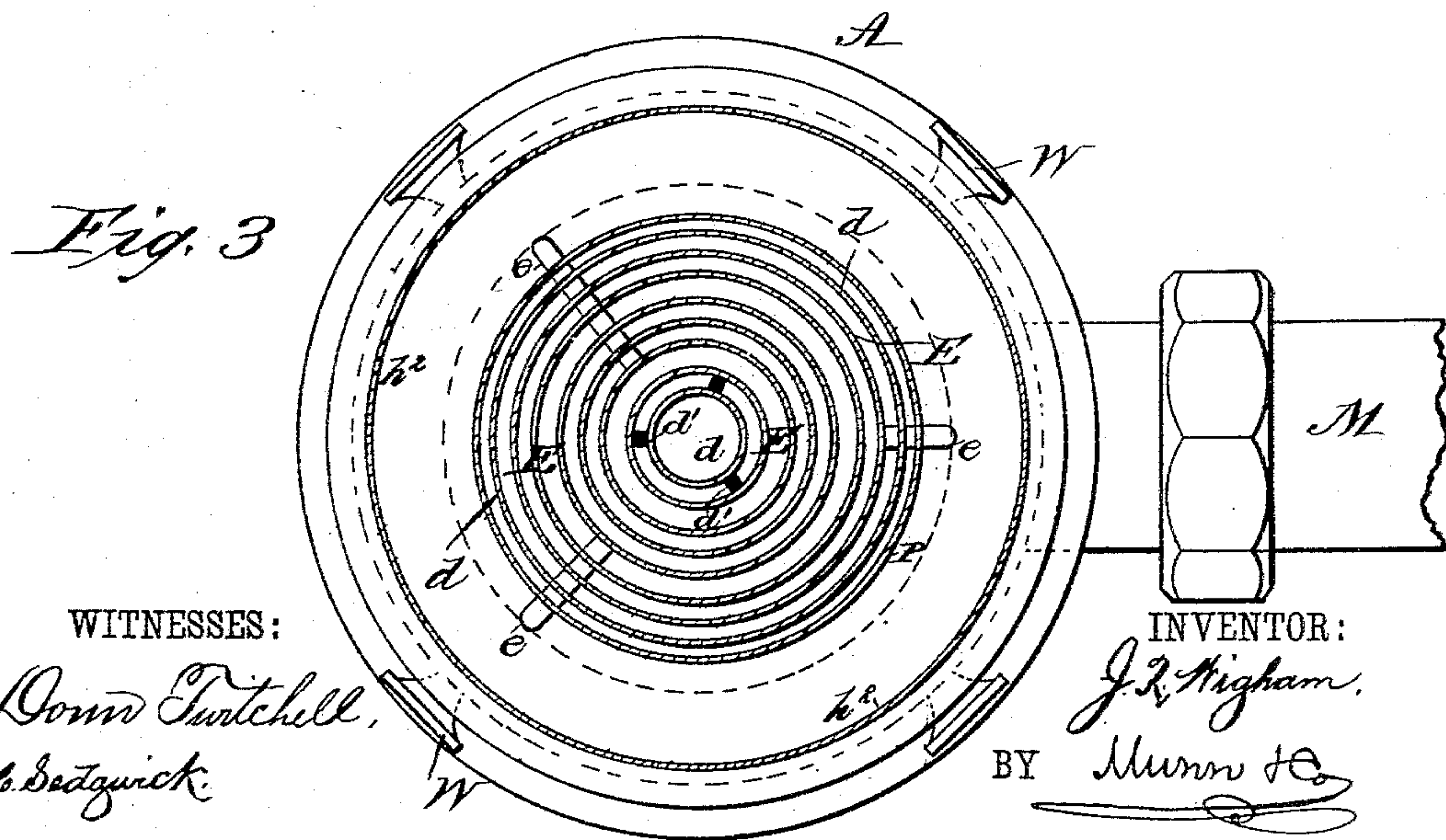
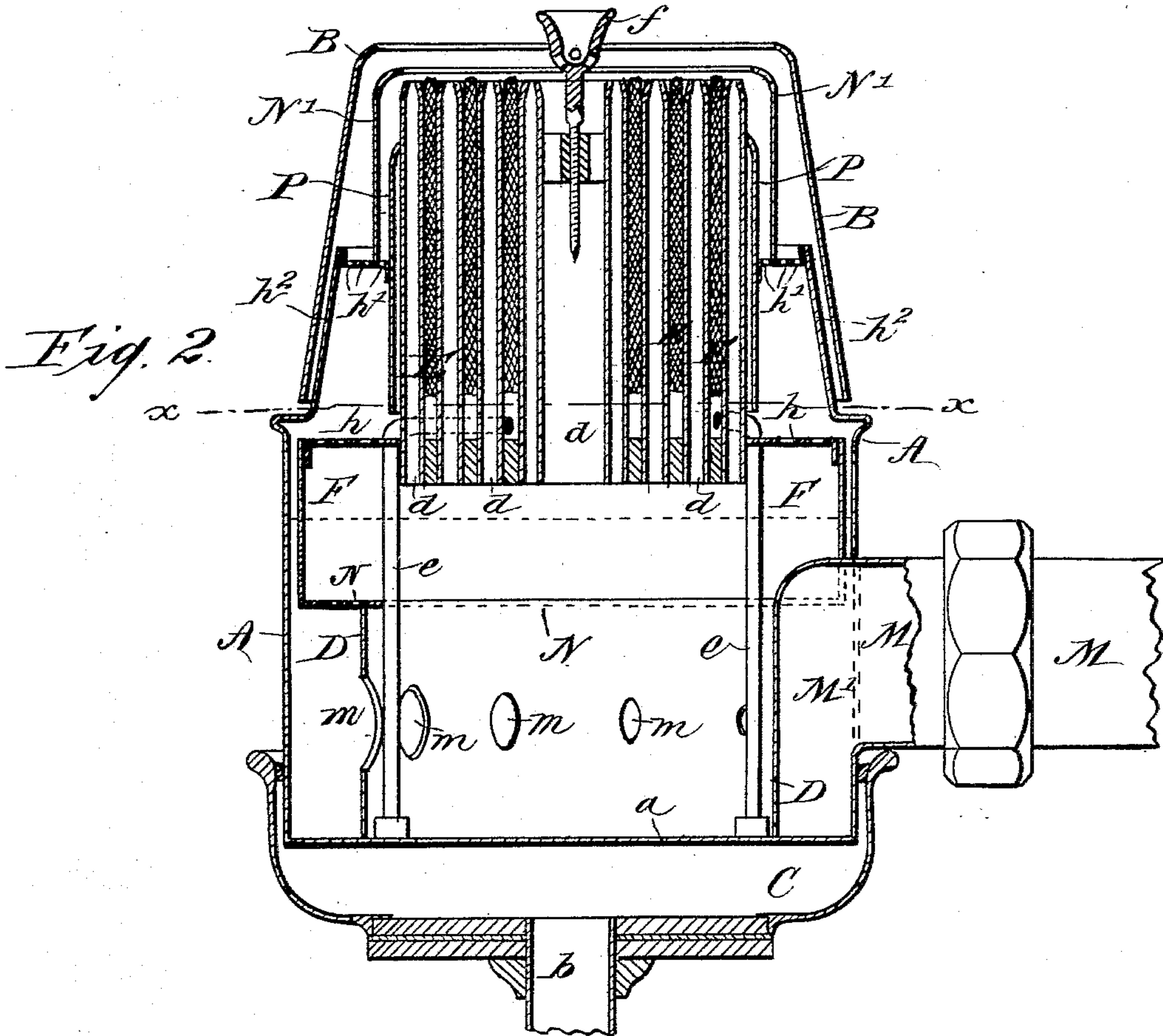
BY *J. R. Higham.*
Munn & Co.
ATTORNEYS.

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UNITED STATES PATENT OFFICE.

JOHN R. WIGHAM, OF MONKSTOWN, COUNTY OF DUBLIN, ASSIGNOR TO THE
ROSS PATENT LIGHTING COMPANY, (LIMITED,) OF DUBLIN, IRELAND.

OIL-LAMP FOR LIGHT-HOUSES.

SPECIFICATION forming part of Letters Patent No. 387,939, dated August 14, 1888.

Application filed April 4, 1887. Serial No. 233,594. (No model.) Patented in England November 6, 1884, No. 14,686.

To all whom it may concern:

Be it known that I, JOHN RICHARDSON WIGHAM, of Monkstown, in the county of Dublin, Ireland, have invented a new and Improved Oil-Lamp for Light-Houses, (for which I have obtained a patent in Great Britain, No. 14,686, dated November 6, 1884,) of which the following is a full, clear, and exact description.

My invention relates to a construction of oil-lamp provided with multiple wicks, more particularly applicable for light-house illumination, having for its object to insure vivid combustion of the oil by supplying heated air by forced draft to the interior and exterior of the flames, and to dispense with the use of a glass or other transparent chimney inclosing the flames. I will describe this construction, referring to the accompanying drawings.

Figure 1 is an elevation showing the exterior of the burner and part of the chimney, which extends down only to about the top of the flame. Fig. 2 is a central vertical section, and Fig. 3 is a horizontal section on the line $x x$ of Fig. 2, both on a larger scale than Fig. 1.

A is the outer casing, the upper part of which supports the removable air-cone B. At the bottom of the casing A is an oil-chamber, C, supplied with oil by a pipe, b , from a reservoir at a suitable level to cause the oil to ascend to the desired height in the concentric wick-tubes E, which are of annular form, closed at the bottom. Three of these wick-tubes are shown in Figs. 2 and 3; but there might be only two of them or a number greater than three. Each of the wick-tubes communicates by a tube or by several tubes, e , with the oil-chamber C. Within the casing A is an interior casing, D, with an annular air-space around it, this space being supplied with air under moderate pressure by a pipe, M, the mouth M' of which opens into the air-chamber surrounding the interior casing, D. Through the casing D there are apertures m , which are small near the air-inlet m' , but are larger the farther they are from the inlet. Thus the casing D, with its apertures m , operates as a baffle to the entering air, causing uniform distribution of the currents in the space within the casing D.

Above this space is a diaphragm, N, of wire-gauze or finely-perforated metal, through which the air passes in a diffused manner into an upper chamber, F. From the chamber F air passes by the central opening and the annular openings d within and between the wick-tubes. A portion of the air also passes through perforations h in the cover of the chamber F into the space within a conical casing, h^2 , and from this space air passes up the annular space between concentric casings P and N', and also through perforations h' , up the annular space between the concentric casings N' and B, the upper ends of which are formed with inwardly-turned lips to serve as air-deflectors. By these various passages air heated by contact with the wick-tubes is supplied to the flames of the concentric wicks inside and outside of each of them, the outermost air-supply being deflected toward the outer flame by the inwardly-curved lips of the casings N' and B, and the innermost air-supply being deflected toward the inner flame by a central deflecting-button, f , which is flared outward at its upper end. Above the burner there is an overhanging flue or chimney, O, made of metal, with its lower end next the flame made of talc.

The knobs W (shown in Figs. 1 and 3) serve for raising or lowering the several wicks, each of them working a pinion gearing with a vertical rack in the usual way, and therefore not shown. A convenient form of rack-and-pinion gearing, applicable for raising and lowering the multiple wicks, is shown in Reissue Patent No. 7,165, dated June 6, 1876, and Reissue Patent No. 7,867, dated August 28, 1877. A capped tube, W', is for conducting overflow of oil to any desired receptacle, and the oil-cock, by which the oil-supply is regulated, has an index-dial, R.

The wick-tubes E are supported by the oil-tubes e , and the central air-tube d is supported by arms d' projecting from the inner wick-tube.

Having thus described my invention, what I claim is—

In a multiple-wick lamp having several concentric wick-tubes and intermediate con-

centric air-passages, the combination, with the
outer casing, A, having air-inlet M, of the inte-
rior casing, D, provided with a series of aper-
tures, *m*, increasing in size the farther they
5 are away from said air-inlet, the perforated
diaphragm N, the chamber F, having a per-
forated cover, the conical casing *h*², having a
perforated top, and the concentric casings B,

N', and P, provided with upper inwardly-
turned lips, substantially as described.

JOHN R. WIGHAM.

Witnesses:

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